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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRAN, THANG V

ART UNIT PAPER NUMBER

2653

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/776,706

Applicant(s)

CHEONG ET AL.

Examiner

Thang V. Tran

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-32 is/are allowed.
- 6) ☒ Claim(s) 1-7, 12-19 and 26 is/are rejected.
- 7) ☒ Claim(s) 8-11 and 20-25 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 and 12-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukakusa (US 5,615,203).

Fukakusa, according to Figs. 10-13 and 20, shows an optical system comprising: an optical pickup (see Fig. 11 or 13) including an objective lens 20 for focusing a light beam to a recording surface of an optical disk; a voice coil motor (see Fig. 20 for details); actuator arm (90, 66) pivotable in a radial direction of the optical disk by the voice coil motor (see Fig. 20 for details of the actuator arm); a load beam (80) supported by the actuator arm (90,66) and movable up and down and in a radial direction; a slider (30) on which the objective lens is mounted; a flexure (82) attached to the load beam for supporting the slider to move over the recording surface; and a driving means (62, 65) mounted on a free end of the actuator arm (90, 66) and the load beam (80) for providing force in a radial direction of the free end of the load beam, as recited in claim 1.

Regarding claim 2, see the load beam (80) having a fixed end fixed to the actuator arm (90), the free end extending from and flexible with respect to the fix end; and a hinged portion (87) between the fixed end and the free end for facilitating movement of the free end in a radial direction.

Art Unit: 2653

Regarding claims 3-5, see a pair of slim portions (87) positioned spaced apart from each other by a hole, connecting the fixed and free ends.

Regarding claim 6, see magnet 65 mounted on the end of actuator arm (90, 66) and a pair of coils (62) mounted on the end of the load beam (80).

Regarding claim 12, see Figs. 10-13 and 20 which show an optical system (see Fig. 12 as example) comprising: an actuator arm (90, 66) pivotable in a radial direction of an optical disk (see Fig. 20 for details of the actuator arm); a load beam (80) supported by the actuator arm (90, 66) and having a first end movable in the radial direction relative to a movement of the arm (90, 66); and a slide element (30) having an objective lens (20) and attached to the load beam (80), and the slide element movable over a recording surface of the optical disk, as recited in claim 12.

Regarding claims 13 and 14, see the driving unit including magnet 56 mounted on the end of the actuator (90, 66) and coil 62 mounted on the end of the load beam (80).

Regarding claim 15, see Fig. 12 which shows the load beam (80) having a second end fixed to a second end of the arm (90, 66); and an intermediate region located between the first and second end of the load beam is flexible (see spring 87) so as to enable the movement of the first end of the load beam in the radial direction relative to the arm (90, 66).

Regarding claim 16, see Fig. 12 which also shows the intermediate region comprising a pair of extensions (this can be either springs 84 or 87) separated by a gap from each other, connecting facing edge of the first and second end of a load arm.

Regarding claims 17 and 18, see the rejection applied to claims 15 and 16 above.

Art Unit: 2653

3. Claims 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Park et al (US 5,793,407).

Park et al., according to Figs. 3 and 4, show an optical apparatus comprising: a slider (6); an actuator assembly (7,8) pivotable in a radial direction of an optical disk, supporting the slider (6); and an optical pickup (14) for focusing a light beam from a light source to form a light spot on the recording surface of the optical disk, where the optical pickup including a light source (1), an optical path changing unit (15); an objective lens (see column 3, lines 58-67), a photodetector (17), and at least an optical fiber (16) connecting the light source and the optical path changing unit (15) thereby the optical loss between the light source and the optical path is suppressed due to the use of the optical fiber, as recited in claim 7.

4. Claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by Brezoczky et al (US 5,351,229).

Brezoczky et al., according to Figs. 4 and 7, shows an optical system comprising: an actuator assembly (arm 49 and voice coil motor) pivotable in a radial direction of an optical disk for supporting a slider (51); and an optical pickup (see Fig. 7) for focusing a light beam from a light source (43) to form a light spot on the recording surface of the optical disk; where the optical pickup inherently mounted on the actuator assembly including a light source (43), an optical path changing unit (see Fig. 7); an objective lens (91), a photodetector (59) inherently mounted on the actuator arm assembly, and an optical fiber (93) for connecting the light source and the optical path changing unit (82) and transferring the light beam from the light source to the optical path changing unit.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukakusa (US 5,615,203) in view of Park et al (US 5,793,407) and further in view of either Campbell (US 5,432,763) or admitted prior art (Fig. 1 or 2)

Fukakusa, according to Figs. 10-13 and 20, shows all the features of the instant claimed invention (see the rejection applied to claim 12 above) except for the use of an optical pickup particularly recited claim 19. Park et al. according to Figs. 3 and 4, teach the use of the particular optical pickup above which comprising: an optical path changing unit for directing a light beam from a light source toward the recording surface, and the light beam reflected from the recording surface toward a photodetector; and an optical fiber for connecting the light source and the optical path changing unit for transferring the light beam from the light source to the optical path changing unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical pickup of Fukakusa based on the teaching of Park et al in order to reduce the weight of the optical pickup of Fukakusa thereby to make the optical pickup of Fukakusa more compact. However, both Fukakusa and Park et al fail to teach the use of the light source mounted on the actuator arm as further recited in claim 19. Campbell et al., according to Fig. 13 or 14, and the admitted prior art, according to Fig. 1 or 2, each teach the use of the light source mounted on the actuator arm. It would have been

Art Unit: 2653

obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fukakusa by mounting the light source on the actuator arm as taught by either Campbell or the admitted prior art in order to make the whole system of Fukakusa more compact.

Allowable Subject Matter

7. Claims 8-11 and 20-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 27-32 are allowed.

9. Claims 8-11, 20-25 and 27-32 are allowable over the prior art of record because the prior art of record, considered in combination or individually, fails to suggest or fairly teach an optical system including a combination of all features and their arrangement as recited in each of the above claims.

Cited references

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to an optical system having an actuator arm assembly for supporting and moving a slider having an optical head or an objective lens mounted in a radial direction of an optical disk.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thang V. Tran whose telephone number is (703) 308-1551. The examiner can normally be reached on Tuesday to Friday, from 7:30AM to 6:30PM.

Art Unit: 2653

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thang W. Tran
Primary Examiner
Art Unit 2653